

G. R. S. IX-5]

Previous references.

Lang 94-16(1,2,4,5,6)

1948.

(Sanitary)

Later references.

File No. 7

Serial Nos

D

GENERAL AND REVENUE SECRETARIAT

Serial Nos.

Three.

Part B for

April 19

SUBJECT.

Malarial Survey in the Nagas

8(3)

From

The Secy, Central Commission

Ab. J. Scheme,

No. G. 552 A

of 14.7.

Submits intermediate report
practical measures for the
of malarial malaria in

7/4.

GENERAL AND REVENUE SECRETARIAT

(Sanitary)

NOTES.

File No. 75-18

FILE HEADING.

Malarial Survey in the Nagar Taluk.

From

The Sanitary Commissioner in Mysore

No. G. C. 348 Dated 8/20th Jan 19

Received 23.1.19.

Diary No. 9701]

Enclos. 2

Spare Copies.

[

Serial No. 1

BRIEF ABSTRACT OF LETTERS.

Submits for information ~~and~~ a report on the results of the Malarial Survey in the Nagar Taluk and recommends certain measures for being sanctioned.

NOTES AND ORDERS.

Subd. The Malarial survey of Nagar Taluk was sanctioned in G.O. no. 990-6 / San 94-16-6 dated 14.8.1917. Submitted for orders.

1430

24/1/19

mt

Make work up the cases properly

D.M. 1/2/19

NOTES—First Sheet.

128/1/19
D.M.

G. R. S. III-2]

General and Revenue
Secretariat.

Lang File No. 75 of 1918.

Serial
No.

u

3) Submitted. The survey sanctioned for 8 months in the G.O. has taken 9 months viz, mid November 1917 to mid August 1918; but no specific recommendations are ~~needed~~ received re ~~an~~ additional month's work.

4) The Sanitary Commissioner has recommended the adoption of measures a) for the prevention of water from stagnating, b) for the destruction of mosquitos c) for sinking new wells & providing them with wire-gauge muzzles d) for regulated house construction.

1441

3/1/19 (5) The Sanitary Commissioner suggests the employment of a mosquito brigade for filling up or draining pools, or other shallow collections of water, for planting water absorbing plants like Eucalyptus &c, the sinking of new wells covered with wire gauge muzzles, the prohibition of irrigation in localities where anti malarial measures have proved ineffective & proper regulation of house construction in the malarious areas.

6) As the survey was undertaken at

vide paras 10 of the Report

9701

3

G. R. S. III-2]

General and Revenue
Secretariat.

San'y File No. 25 of 1918.

Serial
No.

vide para 4 of the Report.

the request of the Central Malaria
Improvement Committee, the report
may be forwarded to that body for
their consideration & for letting us
know what practical measures they
would suggest for the eradication of
malaria in the malarial in the light
of the Sanitary Commissioners
Report.

888
3.2.19.

7) yes. File 94-16 shows that
the Committee were anxious to have
a scientific malarial survey of the Tq.
Mase put up a draft to
the Committee.

8) draft put up

Don.
4/2

888
5.2.19

9) Mase put up a clean
draft as revised

10) Subd with a clean off

Don.
M.

888
7/2/19

11) Subd with a draft
sent to the Sect, M.S. Com.
for appb or other orders

12) Mase approves
the S.C. who furnishes
some interesting information.

Don.
8/2

13) Jones
Don.

25. 2. 19

4868-157

8-2-19

NOTE—Contn. sheet.

WD A 1789—GPB—60,000—200,000—3.

Serial
No.

2

To The Secy Central Committee
M. J. Shimoga

No 20850 D. 19-3-19

Forwards a copy of the Secy Commis note on the results of the Survey conducted in the Taluk for the information of the Central Committee and requests that any practical measures proposed by them for the eradication of malaria in the mahrads in the light of the suggestions contained in the note may be forwarded for the consideration of Govt. Consulting the Mahrads Improvement Committee of Shimoga, Hassan & Kadur etc.

3 From the Deputy Secy to the central committee, M. J. Shimoga

No 552A (M. J.) 1916-17 & 14-7-1919

Submits intermediate report re practical measures for the eradication of malaria in mahrads.

14/Submitted. The Secy, central Com., has forwarded proposals formulated by him, in consultation with the Dist med. officer & Mr. S. R. Balakrishnan. He states that the central committee have resolved to take up the subject in the next meeting & forward the resolution of the

CHIEF SECRETARY
III 207
PROTECTION BRANCH.
20 MAR 1919

- General and Revenue
Secretariat.

File No. 75 of 1918.

Serial
No.

only.
Mr. J. Committee of Kador & Hassan District
May the receipt of the resolution of the Central
Committee be awaited?

HRB
22/7/19

Subs for personal
The further Comm. promised
may be awaited

438
26.7.19

Secd (Revenue)

HRB
28/7

PROTECTION BRANCH
5 AUG 1919

Copy has yet been received
Sub with a reminder —

HRB
28/7

HRB
28/7

Sub with a reminder —

HRB
13/5

Sub with a reminder —
Dated 6/6/26 & D. 4-9-19
From the Central Committee

Mr. J. Scherer (Presiding)

NO 522A 8/16.9.19
1918.19

States that the Subject was placed before
the Central Committee at their meeting held
on the 31st May 19 & the same was
deferred to the next meeting & the subject
will be placed before the Committee
at the next meeting after

NOTE—Contn. sheet.

1245

6

Serial No.

after its conclusion

19) May the receipt of the final reply of the Central Committee be awaited

20/9 22/9

21/9

Sub B
20/9
No draft submitted
meeting before the
Central Committee
21/9
23/9

No reply has yet been received from the Revs
Central Committee (Re I Scheme) Shimoga
Ltd with a reminder.

20/10

20/10

22) Submitted. In subject generalization of
maloria in Malnad has been advised to be deferred
submitted for order. If approved, this will be
Hd BBS kept along with papers for next
11/11/20 meeting.

5/11/20
12 MAR 1920

23) In the file re the holding of the meeting in July next this subject has been ordered to be omitted. Submitted for order.

22-6-20 (6. 3rd member)

8/24
23.6.20

24) We have asked the Shimoga Commr to submit a scheme re the Malnad Commr. The Shimoga Commr may be reminded.

26) Draft please

27/10

27) Draft re subject up as linked file.

Serial
No.

ref to infra of above

23) Submitted. The scheme has been received from the Offl Sanitary Comd & has been ordered to be tried to Kabili Village. May & Saluk in 10 no 1. 117507-11 of Sanz 43-20-38 12.3.1921. If approved these papers will be moved.

JAL

30.3.1921

yes.

yes

31/3/21

CHIEF SECRETARY
PROTECTOR
6 APR 1921

B

Office of the Sanitary Commissioner

with the Government of Mysore,

Bangalore, Dated the ⁸/₂₀ January 1919.

DIARY No. 97

No. G. e 348
Que 2

From

M. Srinivasa Rao, Esq., M.A.M.D.B.Sc., Etc.,

Sanitary Commissioner in Mysore,

B A N G A L O R E.

San
75-18
T

To

C. S. Balasundaram Iyer, Esq., B.A.,

Chief Secretary to the Government of Mysore,

B A N G A L O R E.

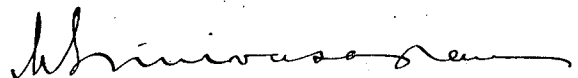
Sir,

With reference to Government Order No. 9906^X Sany. 94-16-6 dated the 14th August 1917, I have the honour to submit herewith, for the information and orders of Government, a report on the results of the Malarial survey carried out in the Nagar Taluk. The details are - - omitted from the report with a view to bring into prominence the salient features that have a bearing on the recommendations pertaining to Anti-Malarial Operations.

I have the honour to be,

Sir,

Your most obedient servant,



Sanitary Commissioner.

191

33800

From

*The offg. Sanitary Commission
in Mysore*

To

*The Chief Secretary to Govt
of Mysore*

Dated

8.1.19

Despatched

20.1.19.

Received

General No.

348

No.

Enclosure No. *Enc 2*

*Forwarding a report on the results
of the malaria survey carried out
in the Nagar Taluk.*

*Jan
11/1 24-19
A-3*

CHIEF SECRETARIAT
111
23 JAN 1919

7

Note on the results of the Malarial Survey
carried out in the Nagar Taluk.

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On the establishment of Committees under the Malnad Improvement Scheme to devise measures to reduce the mortality and the general unhealthiness of the Malnad areas it was at first decided that with a view to determine the precise nature of the diseases and the extent of their prevalence in the malnad villages a survey called the " disease survey " should be carried out. This was accordingly done in a few typical villages but proved nothing more than the fact that malaria was the dominant disease in the malnad. On my recommendation the Malnad Improvement Committee resolved to have instead, a scientific malarial survey and to have it conducted in the Nagar Taluk to begin with. This resolution having been accepted by the Government the survey was taken up about the middle of November 1917 and continued till the middle of August 1918.

2. The District Sanitary Officer was entrusted with the supervision of the survey work, which was actually conducted by a staff consisting of 3 Sanitary Inspectors, a Draftsman and 6 attendants. These Sanitary Inspectors had received practical training in malarial survey work at Seringapatam where a survey was in progress during the latter half of the year 1917.

3. Before the work of survey was taken up a memorandum was issued by the Sanitary Commissioner containing



containing instructions as to the methods of work, the points to be noted and the manner in which the observa-

tions made from day to day
Procedure . were to be systematically recorded. Briefly, the method consisted in having a separate map prepared for each range on which were marked the actual and potential breeding places of mosquitoes, both infective as well as harmless. From all the actual breeding places larvae were collected, adult mosquitoes bred from them, identified with known specimens and the results recorded. At the same time adult mosquitoes found in the houses were caught, identified and dissected for finding the parasites in their stomachs and salivary glands. The children under 12 years of age were examined for enlargement of spleen and the addresses of affected children noted in a separate register. A number of blood slides were examined and those in which malarial parasites both benign and malignant were found were noted. Prevalence of diseases other than malaria, the condition of the dwelling houses, the disposition of the cattle sheds, the condition of the sources of water supply and such other points bearing on the public health of the area were also noted.

4. This note is concerned mainly with the salient features of the investigation in so far as they signify

the line of action to be
Scope of the report. pursued by the Malnad Improvement Committee in order to restrict the prevalence of malaria and to facilitate the formation of healthy surroundings so as to render the malnads at least as habitable as the maidan parts of the State. All the details collected by the Sanitary Inspectors who conducted the survey are not given in this report but

but for purposes of the anti-malarial operations to be carried out the District Sanitary Officer will be able to furnish to the local authorities concerned all the necessary information pertaining to the area that may be taken up.

5. Nagar Taluk is bounded on the north by Sagar Taluk, on the south by Thirthahalli Taluk, on the east

Boundaries, population and
general physical features.

by Shimoga Taluk and
towards the west by
the range of hills of
Western Ghats and South Canara. The Taluk consists of
197 towns and villages of which 187 have a population
under 500, 8 a population between 500 and 1000, and 2
between 1000 and 2000 according to 1911 Census. The
total population according to 1911 Census is 37,656 of
whom 20,606 are males 17,050 are females the number of
occupied houses being 6457. The density of population
is 70.3 persons per square mile and the average number
of persons per house is 5.8. During this survey of
137 villages the population was actually found to be
20049 against 26205 shown by Census of 1911. This
apparently means a diminution of population by 6156.
The average density of population in the Taluk as per
Census of 1911 is 70.30 and as per recent survey the
density works out to be 50.80 per square mile.

The general level of the taluk is highest on the west coast from where it slopes gently towards the east.

One feature which is important from a malarial point of view is the presence of a large number of dis-used minor tanks overgrown with weeds and surrounded on all sides practically by ever green forests. The soil in general is of laterite, and the villages which form the paddy fields and the areca gardens are composed of the products of disintegration of the red laterite rock and the manure afforded by nature from the forests.

4.

forests.

The average annual rainfall as per rain gauge at Kallurkatte for the six years 1912 to 1917 is 129.3 inches.

6. The following are the particulars of the mosquitoes found in the Taluk, the species being arranged

Prevalence of mosquitoes. according to their greatest prevalence.

The number of villages in which they were found is noted in brackets against each variety.

Anopheles Rossi (117), Anopheles Jamesi (98), Anopheles Simulensis (72), Anopheles Culicifacies (58), Anopheles Listoni (37), Anopheles Jyporensis (29), Anopheles Fuliginosis (22), Anopheles Barbirostrius (21), Anopheles Nigerimus (21), Anopheles ^{Paniculata} ~~Pumetulath~~ (5), Anopheles Pul¹pharina (3), Anopheles Maculatus (2), Anopheles Gigas (1), Anopheles Immaculatus (1), Anopheles Stephensi (1).

7. The average splenic index for the 138 villages surveyed is 57.6 per cent. The total number of children

Splenic Index. between 12 and 2 that were examined were 4792 of whom 2551 boys and 955 girls had enlarged spleens.

The table showing splenic index in the different ranges is appended.

The total number of villages that gave a splenic index of 100 per cent are four and the numbers with a splenic index above 20, 30, 40, 50, 60, 70, 80 and 90 per cent are 1, 22, 54, 27, 14, 15, 9 and 2 respectively the total number of villages with a splenic index below 30 per cent is 23, above 30 per cent is 107 and the number of villages between 50 and 100 per cent is 71.

the names amongst
have been given

8. The conditions found to be favorable to the spread of malaria in the Kallurkatte Town are dealt with

12

5.

with below and reveal the factors that contribute towards unhealthiness and the necessary remedial measures.

The town is situated on an elevated piece of land having on the north shrub jungle, Hottakere Tank and paddy fields, on the south paddy fields, Kaba Sagarkere tank, lantana and other shrub jungle, on the east paddy fields of Ganjam Koppa Village, and on the west paddy fields of Sutha and Kallur villages. The general sanitary conditions prevalent are, as every where else in the malnads, unsatisfactory. Manure and street sweepings are dumped promiscuously near houses. Properly constructed latrines are conspicuous by their absence. Sullage water stagnates in the backyards of houses. The population is 835, the number of dwelling houses 202 and the average number of people in a house 4. Of 127 boys and 95 girls examined 51 and 26 respectively had enlarged spleen. The splenic index in the case of boys 40 per cent and of girls 28 per cent the average for both boys and girls being 35 per cent.

9. The breeding places of infective mosquitoes were found to be (1) shallow or disused wells, (2) the small irrigation channels, (3) the several hondas adjoining the Hottakere Tank to the north and Kabasagarakere to the south, and (4) the puddles ~~on~~ pools left in the paddy and sugar cane fields to the north, south and west of the travellers' bungalow. 32 wells having depths varying from 15 to 45 are distributed all over the town and in none of them were mosquitoes larvae found.

10. Before making definite recommendations it is well to bear in mind what cannot fail to strike even a casual observer that the average low standard of living of the people, the economic factors that induce the average villager to locate his house in a position most favorable to the development of malaria, the bad

bad housing and the disregard of the most rudimentary principles of sanitation in daily life singly and collectively react ^{on} one another as cause and effect in turn. The question is in a broad sense one connected with the education of the people. Yet at the same time it is imperative that the measures adopted by Government should be placed on an organized basis so that tangible results are achieved as quickly as may be, in restricting the prevalence of malaria in the malnad.

The following measures are therefore recommended:

(1) The employment of a mosquito brigade for a town or group of villages placed under a Sanitary Inspector (a) for filling up or draining pools or other shallow collections of water, (b) for treating the pools that cannot be drained with crude petrolium, (c) for the prevention of excavations within 100 yards of each village, (d) for stocking large ponds which cannot be drained or filled up, with suitable larvae-eating fish, (e) for filling up disused wells, (f) for clearing ponds, pools etc of all kinds of vegetation, (g) for keeping the banks of irrigation channels clear of weeds, (h) for making house-to-house visits and seeing that no collections of water are allowed in broken pots, pans, bottles, cocoanut shells etc., etc., (k) for planting of water-absorbing plants eg., Eucalyptus, Casuarina, Baje etc., etc., (L) distribute quinine to those that may need it.

(2) The sinking of ~~wells~~ new wells, it being compulsory that each of such wells is fitted up with a Myer's pump and either covered over or provided with wire gauze shutters.

(3) Prohibition of irrigation in localities where other anti-malarial measures have not proved effective.

del

effective.

(4) Proper regulation of house construction by strict enforcement of existing rules with the object of ensuring that houses are not located in close proximity to actual or potential breeding places of mosquitoes.

As regards Kallurkatte town itself the following measures will be useful:

(1) The honda to the south of the Travellers' Bungalow should be breached,

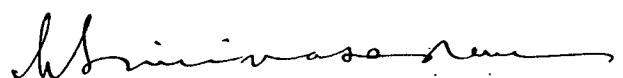
(2) The water-logged fields lying below this honda should be drained properly by cutting a deep trench along their whole length and by connecting this with cross trenches.

(3) The channel to the north of the Travellers' Bungalow should be so graded and trimmed as not to allow any stagnation of water.

(4) The paddy fields to the west of the Travellers' Bungalow should be similarly drained into the stream close by.

The whole aim of the measures suggested above is to prevent the water logging of the fields surrounding the town after the cessation of the rains. The question of planting of some of the places with Eucalyptus, Casuarina, Baje and other trees and shrubs, deserves the serious consideration of the Malnad Improvement Committee.

Nagar town so abounds with wells breeding the infective variety of mosquitoes and is so overgrown with jungle that nothing short of its being abandoned in favor of a new town on a healthier site is likely to be of any use.



M. A., M. D., D. P. H.,

Sanitary Commissioner.

P. H.

8 Jan. 1919

S P L E E N R A T E .

Ranges.	No. of villages Surveyed.	Children between 2 & 12 examined for spleen.			Children with enlarged spleen.			Per centage.
		Boys.	Girls.	Total.	Boys.	Girls.	Total.	
Kallur Katti.	55	700	596	1296	377	218	595	45.8 %.
N A G A R.	29	916	234	1150	386	317	703	61.5 %.
H U M C H A.	54	1148	899	2047	818	474	1292	62.8 %.
T O T A L	138	2764	1729	4493	1581	1009	2590	57.6 %.

3/3

17

G. R. S. VI—G/32]

SUBJECT.....

Malarial Survey of Nagar Taluk

Diary No. of letter replied to.....9701

Section San'y

File No. 75-68

Serial No. 2

GENERAL AND REVENUE SECRETARIAT,

()

, the

191

No.

Grossobus

Date of issue.....

19.9.19

To

The Secretary, Central Committee,

Malarial Improvements

Chimora.

Signed by.....

M. V. M.

Sir,

With reference to G.O. No.

990-6/Lan 94-16-6 dated 14-8-17

sanctioning the recent malarial survey of Nagar Taluk,

I am directed to forward herewith

Copy of the Sanitary Commission's

note dated 8th Jan 1919^{on} the results

of the survey conducted in the

over.

M. V.

9/12/17

18

the said Taluk for ^{the information} being placed
before the central committee for
their consideration, and to request
any practical
that measures to be proposed
by them for the eradication of
Malaria in Malnad, in the light
of the suggestions contained in
the note, may be forwarded to
the consideration of your
office after consulting the
Malnad Improvement Committee,
Shimoga, Hassan & Kadur districts.

I have etc

P^m
8/12

Chief Secretary to Govt List of enclosure

4/9/19
8/2/19
28/2
7/2

Copied by

Examined by

(19A)

Note on the results of the Malarial Survey carried out in
the Nagar Taluk.

On the establishment of Committees under the Malnad Improvement Scheme to devise measures to reduce the mortality and the general unhealthiness of the Malnad areas.

Objects of the Survey. () it was at first decided that with a view to determine the precise nature of the diseases and the extent of their prevalence in the malnad villages a survey called the "disease survey" should be carried out. This was -- accordingly done in a few typical villages but proved nothing more than the fact that malaria was the dominant disease in the malnad. On my recommendation the Malnad Improvement Committee resolved to have instead, a scientific malarial survey and to have it conducted in the Nagar Taluk to begin with. This resolution having been accepted by the Government the survey was - taken up about the middle of November 1917 and continued till the middle of August 1918.

2. The District Sanitary Officer was entrusted with the supervision of the survey work, which was actually conducted by a staff consisting of 3 Sanitary Inspectors, a

Agency and duration of survey. () Draftsman and 6 attendants. These Sanitary Inspectors had received practical training in malarial survey work at Seringapatam where a survey was in progress during the latter half of the year 1917.

3. Before the work of survey was taken up, a memorandum was issued by the Sanitary Commissioner containing instructions as to the methods of work, the points to be noted and the manner in which the observations made from day to day were to be systematically recorded. Briefly the method consisted

Procedure () in having a separate map prepared for each range on which were marked the actual and potential breeding places of mosquitoes, both infective as well as harmless. From all the -

(14)
B

actual breeding places larvae were collected, adult mosquitoes bred from them, identified with known specimens and the results recorded. At the same time adult mosquitoes found in the houses were caught, identified and dissected for finding the parasites in their stomachs and salivary glands. The children under 12 years of age were examined for enlargement of spleen and the addresses of affected children noted in a separate register. A number of blood slides were examined and those in which malarial parasites both benign and malignant were found were noted. Prevalence of diseases other than malaria, the condition of the dwelling houses, the disposition of the cattle sheds, the condition of the sources of water supply and such other points bearing on the public health of the area were also noted.

4. This note is concerned mainly with the salient features of the investigation in so far as they signify the line of action to be pursued by the Malnad Improvement Committee

Scope of the report.	0
	0

in order to restrict the prevalence of malaria - and to facilitate the formation of healthy surroundings so as to render the ~~maln~~ malnads at least as habitable as the maidan parts of the State. All the details collected by the Sanitary Inspectors who conducted the survey are not given in this report but for purposes of the anti-malarial operations to be carried out, the District Sanitary Officer will be able to furnish to the local authorities concerned all the necessary information pertaining to the area that may be taken up.

5. Nagar Taluk is bounded on the north by Sagar Taluk, on the south by Thirthahalli Taluk, on the east by Shimoga Taluk and towards the west by the range of hills of Western Ghats and South Canara. The Taluk consists of 197 towns and villages of which 187 have a population under 500, 8 a population between 500 and 1000, and 2 between 1000 and 2000 according to 1911 census. The total population according to 1911 census is 37,656 of whom 20606 are males, 17,050 are females, the number of occupied houses being 6457. The density of population is 70.3 persons per square mile

(18
C)

mile and the average number of persons per house is 5.8. During this survey of 137 villages the population was actually found to be ~~200049~~ 20049 against 26205 shown by census of 1911. This - apparently means a diminution of population by 6156. The average density of population in the Taluk as per census of 1911 is 70.30 and as per recent survey the density works out to be 50.80 per sq. mile.

The general level of the Taluk is highest on the West Coast from where it slopes gently towards the east.

One feature which is important from a malarial point of view is the presence of a large number of disused minor tanks overgrown with weeds and surrounded on all sides practically by ever-green forests. The soil in general is of laterite, and the villages - which form the paddy fields and the areca gardens are composed of the products of disintegration of the red laterite rock and the manure afforded by nature from the forests.

The average annual rainfall as per rain gauge at Kallur-katte for the six years 1912 to 1917 is 229.3 inches.

6. The following are the particulars of the mosquitoes found in the Taluk, the species being arranged according to their greatest prevalence. The number of villages in which they - were found is noted in brackets against each -- variety.

Anopheles Rossii (117), Anopheles Jamesi (98), Anopheles Simulensis (72), Anopheles Culicifacies (58), Anopheles Listoni (37) Anopheles Jyporensis (29), Anopheles Fuliginosis (22), Anopheles Barbirostris (21), Anopheles Nigerismus (21), Anopheles Parriculata (5), Anopheles Pulcharina (3), Anopheles Maculatus (2), Anopheles Gigas (1), Anopheles Immaculatus (1), Anopheles Stephensi (1).

7. The average splenic index for the 138 villages surveyed is 57.6 per cent. The total number of children between 12 and 2 that were examined were 4792 of whom 2551 boys and 955 girls had enlarged spleens.

The table showing splenic index in the different ranges is appended.

(18 D)

The total number of villages that gave a splenic index of 100 per cent are four and the numbers with a splenic index above 20, 30, 40, 50, 60, 70, 80 and 90 per cent are 1, 22, 54, 27, 14, 15, 9 and 2 respectively the total number of villages with a splenic index below 30 per cent is 23, above 30 per cent is 107 and the number of villages between 50 and 100 per cent is 71.

8. The conditions found to be favourable to the spread of malaria in the Kallurkatte town are dealt with below and reveal the factors that contribute towards unhealthiness and the necessary remedial measures.

The town is situated on an elevated place of land having on the north shrub jungle, Hottakere Tank and paddy fields, on the south paddy fields, Kaba Sagarkere tank, lantana and other shrub jungle, on the east paddy fields of Ganjam Koppa village, and on the ^{west} ~~east~~ paddy fields of Sutha and Kallur villages. The general sanitary conditions prevalent are, as everywhere else in the malnads unsatisfactory. Manure and street sweepings are dumped promiscuously near houses. Properly constructed latrines are conspicuous by their absence. Sullage water stagnates in the backyards of houses. The population is 835, the number of dwelling houses 202, and the average number of people in a house is 4. Of 127 boys and 95 girls examined 51 and 25 respectively had enlarged spleen. The splenic index in the case of boys is 40 per cent and of girls 28 per cent the average for both boys and girls being 35 per cent.

9. The breeding places of infective mosquitoes were found to be (1) shallow or disused wells, (2) the small irrigation channels, (3) the several hondas adjoining the Hottakere Tank to the north and Kabasagarakere to the south, and (4) the puddles and pools left in the paddy and sugar cane fields to the north, south and west of the travellers' bungalow. 32 wells having depths varying from 15 to 45 are distributed all over the town and in none of them were mosquito larvae found.

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10. Before making definite recommendations, it is well to bear in mind what cannot fail to strike even a casual observer that - the average low standard of living of the people, the economic factors that induce the average villager to locate his house in a position most favourable to the development of malaria, the bad housing and the disregard of the most rudimentary principles of sanitation in daily life singly and collectively react on one another and cause and effect in turn. The question is in a broad sense one connected with the education of the people. Yet at the same time it is imperative that the measures adopted by Government should be placed on an organised basis so that tangible results are achieved as quickly as may be, in restricting the prevalence of malaria in the malnad.

The following measures are therefore recommended:-

(1) The employment of a mosquito brigade for a town or group of villages placed under a Sanitary Inspector (a) for filling up or draining pools or other shallow collections of water, (b) ~~for~~ for treating the pools that cannot be drained with crude petroleum, (c) for the prevention of excavations within 100 yards of each village (d) for stocking large ponds which cannot be drained or filled up, with suitable larvae eating fish, (e) for filling up disused wells, (f) for clearing ponds, pools, etc., of all kinds of vegetation, (g) for keeping the banks of irrigation channels clear of weeds, (h) for making house-to-house visits and seeing that no collections of water are allowed in broken pots, pans, bottles, cocoanut shells, etc., etc., (K) for planting of water absorbing plants, e.g. Eucalyptus, Casuarina, Baje etc., etc., (2) distribute quinine to those that may need it.

2) The sinking of new ~~wells~~ wells, it being compulsory that each of such wells is fitted up with a Myer's Pump and either covered over or provided with wire gauze shutters.

(3) Prohibition of irrigation in localities where other anti-malarial measures have not proved effective.

(4) Proper regulation of house construction bt strict enforce

(187)

that houses are not located in close proximity to actual or potential breeding places of mosquitoes.

As regards Kallurkatte town itself the following measures will be useful:-

(1) The honda to the south of the Travellers bungalow should be ~~breached~~ breached;

(2) the water-logged fields lying below this honda should be drained properly by cutting a deep trench along their whole length and by connecting this with cross trenches.

(3) The channel to the north of the Travellers' bungalow - should be so graded and trimmed as not to allow any stagnation of water.

(4) The paddy fields to the west of the Travellers' Bungalow should be similarly drained into the stream close by.

The whole aim of the measures suggested above is to prevent the water logging of the fields surrounding the town after the cessation of the rains. The question of planting of some of the places with Eucalyptus, Casuarina, Baje and other trees and shrubs deserves the serious consideration of the Malnad Improvement Committee.

Nagar town so abounds with wells breeding the infective variety of mosquitoes and is so overgrown with jungle that nothing short of its being abandoned in favour of a new town on a healthier site is likely to be of any use.

" C O P Y "

Tomarastaw

S P L E E N R A T E.

Ranges.	Number of villages surveyed.	Children between 2 and 12 examined for spleen.			Children with enlarged spleen.			Percentage
		Boys.	Girls.	Total	Boys.	Girls.	Total.	
Kallurkatte	55	700	596	1296	377	218	595	45.8
M a g a r.	29	916	234	1150	386	317	703	61.8
H u m c h a	54	1148	899	2047	818	474	1292	62.3
Total	138	2764	1729	4493	1581	1009	2590	57.6

1553
urgent
No. 552.A.(M.I.)1916-17. Office of the Secretary, Central Committee,
Malnad Improvement Scheme,
Dated, Shimoga, the 14th July 1919.

From

C. Lakshmana Rao, Esquire, B.A., B.L.,
Secretary, Central Committee,
Malnad Improvement Committee,
SHIMOGA.

DIARY No. 245

SECTION	San
FILE NO.	75-18
SERIAL	3

To

C.S. Balasundaram Iyer, Esquire, B.A.,
Chief Secretary to the Government of Mysore,
BANGALORE.

Sir,

Adverting to your letter No. 20850/San.75-18-2 dated 19th March 1919 calling for proposals in the matter of practical measures for the eradication of malaria in the malnad, I have the honor to state that the subject was placed before the central committee at the meeting held on the 31st May 1919 and the committee resolved that the subject might be deferred for next meeting.

2. The resolutions of the three Malnad Improvement District Committees received from the Chairmen concerned are submitted herewith for perusal. The question will again be brought up on the agenda of the Central Committee when it next meets and definite proposals in the matter will be submitted for orders of Government.

I have the honor to be,

Sir,

Your most obedient servant,

Chakram

Secretary, Central Committee,
Malnad Improvement Scheme,
Shimoga.

Chakram

San 17/7/19
Chakram
PROTECTION BRANCH.
18 JUL 1919

From

The Secretary, Central Committee, Malnad Improvement Scheme,

To S E I M O C A.

The Chief Secretary to the Government of Mysore, Bangalore.

Dated 14th July 1919.

Despatched

Received

General No. 552.A.(M.I.)16-17.
No.

Enclosure No.

Submits intermediate report re:
practical measures for the eradication
of malaria in the malnad.

Memo.

At the last meeting of the Malnada Improvement Committee held on the 21st February 1918, the report on the malarial survey of the Nagar Taluk, received with the Sanitary Commissioner's memo No. 348-2 dated 21st January 1919, was considered by the Malnada Improvement Committee of ~~the~~ Shimoga, and it was resolved that a detailed scheme on the anti-malarial operations to be adopted in each Taluk with the details of the cost of establishment might be called for from the Special Sanitary Officer. The Sanitary Officer was accordingly addressed in the matter.

2. The Chief Secretary to Government has in his letter No. 20850.San.75-18-2 dated the 19th March 1919 called for from the Secretary, Central Committee, proposals ~~for~~ for practical measures for the eradication of malaria in the malnad in the light of the suggestions contained in the note and in consultation with the ^{three} ~~above~~ Malnad Improvement Committees.

3. The subject was discussed on 8th April 1919 by the undersigned with the District Medical Officer in charge of the District Sanitary Office and with Mr. S.R. Balakrishna Rao, B.A., LL.B., and the following proposals were drawn up for consideration of the Committee:-

(1) A Special Sanitary Inspector with a gang of 7 men one of whom will be a head gang-man may be entertained for a period of three years. Their work will be (a) filling up or draining pools; (b) treating the pools with crude petroleum., and (c) clearing ponds of rank vegetation.

(2) Measures for filling up of insanitary pits and disused wells and for planting trees and bringing anti-malaria larvae may be tried.

(3) As it is not possible to persuade all owners of private wells to fit up their wells with Myer's pumps and as it is not useful to fit up pumps in places where private wells are numerous,

the pumps may be put up in such villages where private wells are few in number.

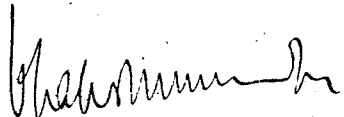
(4) Prohibition of irrigation in localities where other anti-malarial operations have not proved effective may be tried in selected localities.

(5) As regards Kallurkatta town improvement, the loss of revenue and the compensation that will have to be paid for the owners under the tank may be ascertained from the Amildar, and an estimate for the grading and trimming of the channel to the north of the Travellers' Bungalow so as ~~to~~ not to allow any stangation of water may be called for and taken up for execution.

(6) A site may be ~~selected~~ selected for the gamtan of Nagar and usual concessions granted to the people for building their houses in the locality.

SD/-C.Lakshmana Rao,
Special Revenue Officer and
Secretary, Malnad Improvement
Committee, Shimoga.

" C O P Y "


Secretary, Central Committee,
Malnad Improvement Committee,
Shimoga..

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22

Extract from the resolutions passed in the meeting of the
Malnada Improvement District Committee, held on the 19th May 1919.

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2. Letter No. C. 918 dated 19th March 1919 from the Central
Committee requesting that the resolution of this Committee in the
matter of adopting practical proposals for the eradication of
Malaria in the Malnad be forwarded as required in the note of the
Sanitary Commissioner on the results of the malarial survey in the
Nagar Taluk.

Resolution:- "The employment of a mosquito brigade and the sinking
of wells recommended by the Sanitary Commissioner are practical
proposals and may be adopted. The other two measures are not so
practical and may be tried as far as possible".

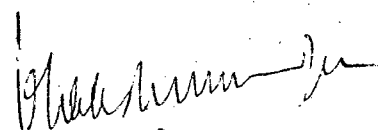
X X X X X X X

SD/-K. Mylar Rao,

Deputy Commissioner and Chairman,

M.I. Committee.

" E X T R A C T "


Secretary, Central Committee,

Malnad Improvement Committee,

Shimoga.

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23

Proceedings of the 6th meeting of the Malnada Improvement Committee, Hassan District held at 3 P.M. on Saturday the 21st June 1919.

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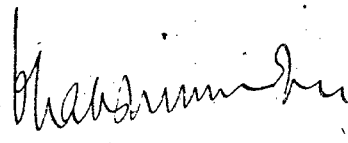
X. Read Central Committee Secretary's letter No. C. 918 dated 29th March 1919 forwarding copy of the note on the results of the malarial survey conducted in the Nagar Taluk and requesting to forward the views of the Malnada Improvement Committee regarding the eradication of malaria in malnada.

Resolution:- Resolved that the proposals are good on the whole and attempts are being made already to give effect to to some of the proposals. The District Sanitary Officer will examine and report with definite proposals on some villages particularly infected with malaria.

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SD/- B. Venkoba Rao,
Deputy Commissioner and Chairman,
M.I.S. Hassan District.

" C O P Y "


Secretary, Central Committee,
Malnada Improvement Scheme,
Shimoga.

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